

I claim:

1. An apparatus for use in converting electrical energy to a signal which is suitable for driving a light element in an End of Train device in a model train track arrangement, said  
5 apparatus comprising:

(a) an EOT device engageable with a model railway vehicle that can be easily installed and removed for relocation between model railway vehicles;

(b) a control system for said EOT device;

10 (c) at least a portion of an electronic circuit disposed at least one of on a truck of such model railway vehicle and a body portion of said EOT device for power conversion and light signal timing; and

(d) at least one light element disposed at least one of in  
15 and on said EOT device and connected to receive a signal from said electronic circuit.

2. An apparatus, according to claim 1, wherein said electronic circuit is small enough to be mounted on a board  
20 which is mountable on a single, removable truck portion of such model railway vehicle.

3. An apparatus, according to claim 1, wherein multiple electrically conductive track contacts of different model

railroad track rails are used to power said control system for said EOT device, said model railroad track rails are electrically insulated from rail to rail.

5           4.    An apparatus, according to claim 1, wherein said electronic circuit includes a microcontroller for accurate timing of said light signal.

10           5.    An apparatus, according to claim 1, wherein said electronic circuit is surface mounted in order to use a reduced size circuit board.

15           6.    An apparatus, according to claim 1, wherein said electronic circuit board is reduced to a size to fit beneath an HO (1/87<sup>th</sup>) scale model railroad car truck.

20           7.    An apparatus, according to claim 1, wherein said EOT control system is designed for installation on most model train railroad cars.

          8.    An apparatus, according to claim 1, wherein said EOT control system includes a power conditioning circuit having full wave rectification.

9. An apparatus, according to claim 8, wherein said EOT control system power conditioning circuit includes electrical filters.

5 10. An apparatus, according to claim 8, wherein said EOT control system power conditioning circuit includes voltage regulation.

11. An apparatus, according to claim 1, wherein said EOT  
10 control system includes at least two electrical contacts to a power source.

12. An apparatus, according to claim 11, wherein said EOT control system includes up to eight electrical contacts to said  
15 power source.

13. An apparatus, according to claim 3, wherein control signals from said track rails control said EOT device's light functions.

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14. An apparatus, according to claim 1, wherein said apparatus further includes a means that senses magnetic fields connected to said light element for controlling said the light element.

15. An apparatus, according to claim 14, wherein said means that senses magnetic fields connected to said light element for controlling said the light element is a hall effect switch.

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16. An apparatus, according to claim 1, wherein said EOT light element is a light emitting diode for reducing power consumption and for providing high luminance output.

10 17. An apparatus, according to claim 1, wherein said EOT control system is an analog model railroad control system.

18. An apparatus, according to claim 1, wherein said EOT control system is a digital model railroad control system.

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19. An apparatus, according to claim 1, wherein said EOT control system is powered by one of AC power and a battery.

20. An apparatus, according to claim 19, wherein said EOT control system is powered by a battery.